

WHAT IS CLAIMED IS:

1. A method for enhancing the photosynthesis of horticultural crops which comprises applying to the surface of said horticultural crop an effective amount of one or more highly reflective particulate materials, said particulate materials being finely divided, and wherein the particles as applied allow for the exchange of gases on the surface of said crop.
2. The method according to claim 1 wherein said particles have a Block Brightness of at least about 90.
3. The method of claim 1 wherein said particulate materials are hydrophobic.
4. The method of claim 1 wherein said particulate materials are hydrophilic.
5. The method of claim 1 wherein the particulate material has a particle size distribution wherein up to 90% of the particles have a particle size of under about 10 microns.
6. The method of claim 1 wherein the particulate material comprises a hydrophilic core and a hydrophobic outer surface.
7. The method of claim 6 wherein said hydrophilic core materials are selected from the group consisting of calcium carbonate, mica, kaolin, bentonite, clays, pyrophyllite, silica, feldspar, sand, quartz, chalk, limestone, diatomaceous earth, baryte, aluminum trihydrate, titanium dioxide and mixtures thereof.

8. The method of claim 4 wherein said hydrophilic materials are selected from the group consisting of calcium carbonate, talc, hydrous kaolin, calcined kaolin,, bentonites, clays, pyrophyllite, silica, feldspar, sand, quartz, chalk, limestone, precipitated calcium carbonate, diatomaceous earth, barytes, aluminum trihydrate, pyrogenic silica, titanium dioxide and mixtures thereof.

9. The method of claim 6 wherein said hydrophobic outer surface materials are selected from the group consisting of organic titanates, organic zirconate or aluminate coupling agents, organofunctional silanes, modified silicone fluids and fatty acids and salts thereof.

10. The method of claim 1 wherein the horticultural crop is selected from actively growing or fruiting agricultural and ornamental crops.

11. The method of claim 1 wherein the horticultural crop is selected from the group consisting of fruits, vegetables, trees, flowers, grasses, roots, seeds and landscape and ornamental plants.

12. The method of claim 1 wherein the finely divided particulate materials have a median individual particle size below about 3 microns.

13. The method of claim 6 wherein the hydrophilic core particulate materials are selected from the group consisting of calcium carbonate, calcined kaolin and mixtures thereof.

14. The method of claim 4 wherein the hydrophilic particulate materials are selected from the group consisting of calcium carbonate, calcined kaolin and mixtures thereof.

15. A method for enhancing the photosynthesis of horticultural crops which comprises applying to the surface of a actively growing or fruiting horticultural crop selected from the group consisting of fruits, vegetables, trees, flowers, grasses, roots, seeds and landscape and ornamental plants which comprises applying to the surface of said horticultural crop an effective amount of a slurry of one or more highly reflective particulate materials having a Block Brightness of at least about 90, said materials comprising one or more particulate materials, selected from the group consisting of calcium carbonate, calcined kaolin and mixtures thereof, said particulate materials have a median individual particle size of about one micron or less, and wherein said particles as applied allow for the exchange of gases on the surface of said crop.

16. The method of claim 1 or 15 wherein the finely divided particulate materials are applied one or more times during the growing season of said horticultural crop.